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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,160	12/20/2001	Kurt A. Estes	9793070-0439	1693

173 7590 07/18/2005

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EXAMINER

WEBB, GREGORY E

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/027,160

Applicant(s)

ESTES ET AL.

Examiner

Gregory E. Webb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on declaration filed 5/27/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 79-81 and 83-88 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 79-81 and 83-88 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

7/14/05

## **DETAILED ACTION**

### ***Response to Arguments***

The applicant states the examiner's arguments were logically inconsistent. In an effort to further explain the examiner's point of view, the examiner has reopened prosecution.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 79-81, and 83-88 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

3. The applicant's specification is considerably vague concerning which compounds meet the functional limitations described in the instant independent claims. The applicant's specification recites only one compounds suitable for the invention and recites classes of compounds such as fluoroethers. It is thus not clear if the applicant's specification has provided the requisite details to enable one of ordinary skill in the art to generate such composition beyond the one preferred embodiment. The applicant's claims however are potentially directed to millions of compounds.

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 79-81, and 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Gerald France (US6811811).

Concerning the preferred working fluid, Gerald France teaches the following:

In general, lipophilic fluids herein are required to be fluids capable of at least partially dissolving sebum or body soil as defined in the test

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hereinafter. Mixtures of lipophilic fluid are also suitable, and provided that the requirements of the Lipophilic Fluid Test, as described below, are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic fluid-containing composition.(par#78)

Concerning the washing additive, Gerald France teaches the following:

Examples of this type of surfactants are the Silwet.RTM. surfactants which are available CK Witco, OSi Division, Danbury, Conn. Representative Silwet surfactants are as follows.

(par#67)

Concerning the claimed fragrance, Gerald France teaches the following:

11. The method according to claim 1 wherein said fabric treatment fluid comprises a perfume.(par#18)

Concerning the home laundering, Gerald France teaches the following:

It is preferred that the lipophilic fluids herein be nonflammable or have relatively high flash points and/or low VOC (volatile organic compound) characteristics, these terms having their conventional meanings as used in the dry cleaning industry, to equal or, preferably, exceed the characteristics of known conventional dry cleaning fluids.(par#76)

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Concerning the claimed solubility properties, Gerald France teaches the following:

Suitable silicone surfactants include, but are not limited to the polyalkyleneoxide polysiloxanes having a dimethyl polysiloxane hydrophobic moiety and one or more hydrophilic polyalkylene side chains and have the general formula:(par#62).

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Behr (US6653512).

Concerning the preferred working fluid, Behr teaches the following:

Examples of R.sub.f groups comprising a catenary heteroatom include perfluoroamine groups. Preferred perfluoroamine groups include those represented by the formula(par#39)

Concerning the fluorine-containing compound, Behr teaches the following:

A co-solvent can be included in the composition to modify or enhance the physical or chemical properties of the composition, including solvency and flash point, for a particular use. Useful co-solvents include alcohols,

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ethers, alkanes including cycloalkanes, alkenes, perfluorocarbons, perfluorinated tertiary amines, perfluoroethers, esters, ketones, aromatics, siloxanes, hydrochlorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons. Representative specifically useful examples of co-solvents which can be used in combination with the ether within a cleaning composition include methanol, ethanol, isopropanol, t-butyl alcohol, isobutyl alcohol, methyl t-butyl ether, methyl t-amyl ether, 1,2-dimethoxyethane, cyclohexane, 2,2,4-trimethylpentane, n-decane, terpenes (e.g.,  $\alpha$ -pinene, camphene, and limonene), trans-1,2-dichloroethylene, methylcyclopentane, decalin, methyl decanoate, t-butyl acetate, ethyl acetate, diethyl phthalate, 2-butanone, methyl isobutyl ketone, toluene, p-chlorobenzotrifluoride, trifluorotoluene, hexamethyl disiloxane, octamethyl trisiloxane, perfluorohexane, perfluoroheptane, perfluorooctane, perfluorotributylamine, perfluoro-N-methyl morpholine, perfluoro-2-butyl oxacyclopentane, methylene chloride, chlorocyclohexane, 1-chlorobutane, 1,1-dichloro-1-fluoroethane, 1,1,1-trifluoro-2,2-dichloroethane, 1,1,1,2,2-pentafluoro-3,3-dichloropropane, 1,1,2,2,3-pentafluoro-1,3-dichloropropane, 2,3-dihydroperfluoropentane, 1,1,1,2,2,4-hexafluorobutane, 1-trifluoromethyl-1,2,2-trifluorocyclobutane, 3-methyl-1,1,2,2-tetrafluorocyclobutane, 1-hydropentadecafluoroheptane,

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1,3-bis(trifluoromethyl)benzene, 1,4-bis(trifluoromethyl)benzene, and bromopropane.(par#67)

Concerning the washing additive, Behr teaches the following:

Suitable surfactants include those surfactants that are compatible with (e.g., soluble or dispersible in) the ether to a useful degree. Although the particular surfactant chosen will depend on the desired application, useful surfactants generally will affect one or more of the surface tension, wetting ability, and/or HLB of the composition. In cleaning applications., preferred surfactants can promote removal of a contaminant by dissolving, dispersing or otherwise displacing the contaminant.(par#64)

Concerning the claimed fragrance, Behr teaches the following:

A 500 mL flask equipped with a magnetic stir bar, gas inlet tube, condenser, and thermometer was charged with C.sub.3 F.sub.7 OCH.sub.3 (158 g, 0.79 mole): The flask was illuminated with two fluorescent bulbs (BLAK-RAY.TM., 254 nm), as an initial aliquot of chlorine gas (.about.3.5 g) was passed through a gas trap into the flask. After a short initiation period, the evolution of HCl was noted and the temperature slowly increased. A total of 56.1 g (0.79 mole) chlorine was added. When conversion was essentially complete, as measured by gas chromatography, the reaction mixture was washed with aqueous KOH and then brine.(par#82)

Concerning the home laundering, Behr teaches the following:

As another specific application, the process is particularly useful in the



solvent-type processes of cleaning fabric and garments, etc., including the process generally known as dry cleaning. According to such process, contaminants can be removed from fiber and textile substrates. This type of cleaning process can be carried out by contacting the fiber or textile with the composition at ambient or elevated temperatures. The contaminated substrate can be agitated to promote the dissolution, dispersion, or displacement of soil contaminants using any conventional agitation means including shaking, stirring and ultrasonic agitation. When the textile is sufficiently cleaned, the composition may be removed (e.g. by decantation), the textile optionally rinsed using fresh cleaning composition or any conventional dry-cleaning solvent to ensure soil removal and prevent redeposition, and the textile can be dried, for example, by air-drying with or without added heat.(par#73)

Concerning the claimed solubility properties, Behr teaches the following:

One useful class of surfactants includes nonionic surfactants, especially those having a hydrophilic-lipophilic balance (HLB) of less than about 14.

Examples include ethoxylated alcohols, ethoxylated alkylphenols, ethoxylated fatty acids, alkylaryl sulfonates, glycerol esters, ethoxylated fluoroalcohols, and fluorinated sulfonamides or carboxamides.

Mixtures of surfactants having complementary properties may be used in which one surfactant is added to a cleaning composition to promote oily soil removal and another added to promote water-soluble soil removal.(par#65) .

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Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Behr (US6552090).

Concerning the preferred working fluid, Behr teaches the following:

Examples of R.sub.f groups comprising a catenary heteroatom include perfluoroamine groups. Preferred perfluoroamine groups include those represented by the formula(par#45)

Concerning the fluorine-containing compound, Behr teaches the following:

A co-solvent can be included in the composition to modify or enhance the physical or chemical properties of the composition, including solvency and flash point, for a particular use. Useful co-solvents include alcohols, ethers, alkanes including cycloalkanes, alkenes, perfluorocarbons, perfluorinated tertiary amines, perfluoroethers, esters, ketones, aromatics, siloxanes, hydrochlorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons. Representative specifically useful examples of co-solvents which can be used in combination with the ether within a

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cleaning composition include methanol, ethanol, isopropanol, t-butyl alcohol, isobutyl alcohol, methyl t-butyl ether, methyl t-amyl ether, 1,2-dimethoxyethane, cyclohexane, 2,2,4-trimethylpentane, n-decane, terpenes (e.g.,  $\alpha$ -pinene, camphene, and limonene), trans-1,2-dichloroethylene, methylcyclopentane, decalin, methyl decanoate, t-butyl acetate, ethyl acetate, diethyl phthalate, 2-butanone, methyl isobutyl ketone, toluene, p-chlorobenzotrifluoride, trifluorotoluene, hexamethyl disiloxane, octamethyl trisiloxane, perfluorohexane, perfluoroheptane, perfluorooctane, perfluorotributylamine, perfluoro-N-methyl morpholine, perfluoro-2-butyl oxacyclopentane, methylene chloride, chlorocyclohexane, 1-chlorobutane, 1,1-dichloro-1-fluoroethane, 1,1,1-trifluoro-2,2-dichloroethane, 1,1,1,2,2-pentafluoro-3,3-dichloropropane, 1,1,2,2,3-pentafluoro-1,3-dichloropropane, 2,3-dihydroperfluoropentane, 1,1,1,2,2,4-hexafluorobutane, 1-trifluoromethyl-1,2,2-trifluorocyclobutane, 3-methyl-1,1,2,2-tetrafluorocyclobutane, 1-hydropentadecafluoroheptane, 1,3-bis(trifluoromethyl)benzene, 1,4-bis(trifluoromethyl)benzene, and bromopropane.(par#73)

Concerning the washing additive, Behr teaches the following:

Suitable surfactants include those surfactants that are compatible with (e.g., soluble or dispersible in) the ether to a useful degree. Although

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the particular surfactant chosen will depend on the desired application, useful surfactants generally will affect one or more of the surface tension, wetting ability, and/or HLB of the composition. In cleaning applications, preferred surfactants can promote removal of a contaminant by dissolving, dispersing or otherwise displacing the contaminant.(par#70)

Concerning the claimed fragrance, Behr teaches the following:

A 500 mL flask equipped with a magnetic stir bar, gas inlet tube, condenser, and thermometer was charged with C.sub.3 F.sub.7 OCH.sub.3 (158 g, 0.79 mole). The flask was illuminated with two fluorescent bulbs (BLAK-RAY.TM., 254 nm), as an initial aliquot of chlorine gas (.about.3.5 g) was passed through a gas trap into the flask. After a short initiation period, the evolution of HCl was noted and the temperature slowly increased. A total of 56.1 (0.79 mole) chlorine was added. When conversion was essentially complete, as measured by gas chromatography, the reaction mixture was washed with aqueous KOH and then brine.(par#88)

Concerning the home laundering, Behr teaches the following:

As another specific application, the process is particularly useful in the solvent-type processes of cleaning fabric and garments, etc., including the process generally known as dry cleaning. According to such process, contaminants can be removed from fiber and textile substrates. This type of cleaning process can be carried out by contacting the fiber or textile with the composition at ambient or elevated temperatures. The contaminated

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substrate can be agitated to promote the dissolution, dispersion, or displacement of soil contaminants using any conventional agitation means including shaking, stirring and ultrasonic agitation. When the textile is sufficiently cleaned, the composition may be removed (e.g. by decantation), the textile optionally rinsed using fresh cleaning composition or any conventional dry-cleaning solvent to ensure soil removal and prevent redeposition, and the textile can be dried, for example, by air-drying with or without added heat.(par#79)

Concerning the claimed solubility properties, Behr teaches the following:

3. The composition of claim 2, wherein the non-ionic surfactant has a hydrophilic-lipophilic balance of less than about 14.(par#13) .

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Behr (US6743262).

Concerning the preferred working fluid, Behr teaches the following:

Examples of R.sub.f groups comprising a catenary heteroatom include

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perfluoroamine groups. Preferred perfluoroamine groups include those represented by the formula (par#50)

Concerning the fluorine-containing compound, Behr teaches the following:

A co-solvent can be included in the composition to modify or enhance the physical or chemical properties of the composition, including solvency and flash point, for a particular use. Useful co-solvents include alcohols, ethers, alkanes including cycloalkanes, alkenes, perfluorocarbons, perfluorinated tertiary amines, perfluoroethers, esters, ketones, aromatics, siloxanes, hydrochlorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons. Representative specifically useful examples of co-solvents which can be used in combination with the ether within a cleaning composition include methanol, ethanol, isopropanol, t-butyl alcohol, isobutyl alcohol, methyl t-butyl ether, methyl t-amyl ether, 1,2-dimethoxyethane, cyclohexane, 2,2,4-trimethylpentane, n-decane, terpenes (e.g.,  $\alpha$ -pinene, camphene, and limonene), trans-1,2-dichloroethylene, methylcyclopentane, decalin, methyl decanoate, t-butyl acetate, ethyl acetate, diethyl phthalate, 2-butanone, methyl isobutyl ketone, toluene, p-chlorobenzotrifluoride, trifluorotoluene, hexamethyl disiloxane, octamethyl trisiloxane, perfluorohexane, perfluoroheptane, perfluorooctane, perfluorotributylamine, perfluoro-N-methyl morpholine, perfluoro-2-butyl oxacyclopentane, methylene chloride, chlorocyclohexane, 1-chlorobutane,

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1,1-dichloro-1-fluoroethane, 1,1,1-trifluoro-2,2-dichloroethane,  
1,1,1,2,2-pentafluoro-3,3-dichloropropane,  
1,1,2,2,3-pentafluoro-1,3-dichloropropane, 2,3-dihydroperfluoropentane,  
1,1,1,2,2,4-hexafluorobutane,  
1-trifluoromethyl-1,2,2-trifluorocyclobutane,  
3-methyl-1,1,2,2-tetrafluorocyclobutane, 1-hydropentadecafluoroheptane,  
1,3-bis(trifluoromethyl)benzene, 1,4-bis(trifluoromethyl)benzene, and  
bromopropane.(par#77)

Concerning the washing additive, Behr teaches the following:

Suitable surfactants include those surfactants that are compatible with  
(e.g., soluble or dispersible in) the ether to a useful degree. Although  
the particular surfactant chosen will depend on the desired application,  
useful surfactants generally will affect one or more of the surface  
tension, wetting ability, and/or HLB of the composition. In cleaning  
applications, preferred surfactants can promote removal of a contaminant  
by dissolving, dispersing or otherwise displacing the contaminant.(par#74)

Concerning the claimed fragrance, Behr teaches the following:

A 500 mL flask equipped with a magnetic stir bar, gas inlet tube,  
condenser, and thermometer was charged with C.sub.3 F.sub.7 OCH.sub.3 (158  
g, 0.79 mole). The flask was illuminated with two fluorescent bulbs  
(BLAK-RAY.TM., 254 nm), as an initial aliquot of chlorine gas (.about.3.5  
g) was passed through a gas trap into the flask. After a short initiation

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period, the evolution of HCl was noted and the temperature slowly increased. A total of 56 lg (0.79 mole) chlorine was added. When conversion was essentially complete, as measured by gas chromatography, the reaction mixture was washed with aqueous KOH and then brine.(par#92)

Concerning the home laundering, Behr teaches the following:

As another specific application, the process is particularly useful in the solvent-type processes of cleaning fabric and garments, etc., including the process generally known as dry cleaning. According to such process, contaminants can be removed from fiber and textile substrates. This type of cleaning process can be carried out by contacting the fiber or textile with the composition at ambient or elevated temperatures. The contaminated substrate can be agitated to promote the dissolution, dispersion, or displacement of soil contaminants using any conventional agitation means including shaking, stirring and ultrasonic agitation. When the textile is sufficiently cleaned, the composition may be removed (e.g., by decantation), the textile optionally rinsed using fresh cleaning composition or any conventional dry-cleaning solvent to ensure soil removal and prevent redeposition, and the textile can be dried, for example, by air-drying with or without added heat.(par#83)

Concerning the claimed solubility properties, Behr teaches the following:

One useful class of surfactants includes nonionic surfactants, especially those having a hydrophilic-lipophilic balance (HLB) of less than about 14.



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Examples include ethoxylated alcohols, ethoxylated alkylphenols, ethoxylated fatty acids, alkylaryl sulfonates, glycerol esters, ethoxylated fluoroalcohols, and fluorinated sulfonamides or carboxamides.

Mixtures of surfactants having complementary properties may be used in which one surfactant is added to a cleaning composition to promote oily soil removal and another added to promote water-soluble soil removal.(par#75) .

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Behr (US6149980).

Concerning the preferred working fluid, Behr teaches the following:

Examples of R.sub.f groups comprising a catenary heteroatom include perfluoroamine groups. Preferred perfluoroamine groups include those represented by the formula(par#49)

Concerning the fluorine-containing compound, Behr teaches the following:

A co-solvent can be included in the composition to modify or enhance the

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physical or chemical properties of the composition, including solvency and flash point, for a particular use. Useful co-solvents include alcohols, ethers, alkanes including cycloalkanes, alkenes, perfluorocarbons, perfluorinated tertiary amines, perfluoroethers, esters, ketones, aromatics, siloxanes, hydrochlorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons. Representative specifically useful examples of co-solvents which can be used in combination with the ether within a cleaning composition include methanol, ethanol, isopropanol, t-butyl alcohol, isobutyl alcohol, methyl t-butyl ether, methyl t-amyl ether, 1,2-dimethoxyethane, cyclohexane, 2,2,4-trimethylpentane, n-decane, terpenes (e.g.,  $\alpha$ -pinene, camphene, and limonene), trans-1,2-dichloroethylene, methylcyclopentane, decalin, methyl decanoate, t-butyl acetate, ethyl acetate, diethyl phthalate, 2-butanone, methyl isobutyl ketone, toluene, p-chlorobenzotrifluoride, trifluorotoluene, hexamethyl disiloxane, octamethyl trisiloxane, perfluorohexane, perfluoroheptane, perfluorooctane, perfluorotributylamine, perfluoro-N-methyl morpholine, perfluoro-2-butyl oxacyclopentane, methylene chloride, chlorocyclohexane, 1-chlorobutane, 1,1-dichloro-1-fluoroethane, 1,1,1-trifluoro-2,2-dichloroethane, 1,1,1,2,2-pentafluoro-3,3-dichloropropane, 1,1,2,2,3-pentafluoro-1,3-dichloropropane, 2,3-dihydroperfluoropentane, 1,1,1,2,2,4-hexafluorobutane,

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1-trifluoromethyl-1,2,2-trifluorocyclobutane, 3-methyl  
-1,1,2,2-tetrafluorocyclobutane, 1-hydropentadecafluoroheptane,  
1,3-bis(trifluoromethyl)benzene, 1,4-bis(trifluoromethyl)benzene, and  
bromopropane.(par#73)

Concerning the washing additive, Behr teaches the following:

Suitable surfactants include those surfactants that are compatible with  
(e.g., soluble or dispersible in) the ether to a useful degree. Although  
the particular surfactant chosen will depend on the desired application,  
useful surfactants generally will affect one or more of the surface  
tension, wetting ability, and/or HLB of the composition. In cleaning  
applications, preferred surfactants can promote removal of a contaminant  
by dissolving, dispersing or otherwise displacing the contaminant.(par#70)

Concerning the claimed fragrance, Behr teaches the following:

A 500 mL flask equipped with a magnetic stir bar, gas inlet tube,  
condenser, and thermometer was charged with C.sub.3 F.sub.7 OCH.sub.3 (158  
g, 0.79 mole). The flask was illuminated with two fluorescent bulbs  
(BLAK-RAY.TM., 254 nm), as an initial aliquot of chlorine gas (.about.3.5  
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period, the evolution of HCl was noted and the temperature slowly  
increased. A total of 56.1 g (0.79 mole) chlorine was added. When  
conversion was essentially complete, as measured by gas chromatography,  
the reaction mixture was washed with aqueous KOH and then brine.(par#88)

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Concerning the home laundering, Behr teaches the following:

As another specific application, the process is particularly useful in the solvent-type processes of cleaning fabric and garments, etc., including the process generally known as dry cleaning. According to such process, contaminants can be removed from fiber and textile substrates. This type of cleaning process can be carried out by contacting the fiber or textile with the composition at ambient or elevated temperatures. The contaminated substrate can be agitated to promote the dissolution, dispersion, or displacement of soil contaminants using any conventional agitation means including shaking, stirring and ultrasonic agitation. When the textile is sufficiently cleaned, the composition may be removed (e.g. by decantation), the textile optionally rinsed using fresh cleaning composition or any conventional dry-cleaning solvent to ensure soil removal and prevent redeposition, and the textile can be dried, for example, by air-drying with or without added heat.(par#79)

Concerning the claimed solubility properties, Behr teaches the following:

One useful class of surfactants includes nonionic surfactants, especially those having a hydrophilic-lipophilic balance (HLB) of less than about 14. Examples include ethoxylated alcohols, ethoxylated alkylphenols, ethoxylated fatty acids, alkylaryl sulfonates, glycerol esters, ethoxylated fluoroalcohols, and fluorinated sulfonamides or carboxamides. Mixtures of surfactants having complementary properties may be used in

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which one surfactant is added to a cleaning composition to promote oily soil removal and another added to promote water-soluble soil removal.(par#71).

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Radomyselski (US6746617).

Concerning the preferred working fluid, Radomyselski teaches the following:

In general, lipophilic fluids herein are required to be fluids capable of at least partially dissolving sebum or body soil as defined in the test hereinafter. Mixtures of lipophilic fluid are also suitable, and provided that the requirements of the Lipophilic Fluid Test, as described below, are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic

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fluid-containing composition.(par#153)

Concerning the fluorine-containing compound, Radomyselski teaches the following:

Physical conditions and/or chemical agents/conditions may be used to facilitate the evaporative removal of the lipophilic fluid. For example, drying aids (i.e., any chemical agent that evaporates more readily than the lipophilic fluid used in the method that reduce the time for drying of the fabric articles treated in the method of the present invention).

Non-limiting examples of such drying aids include alcohols, hydrofluoroethers, esters and mixtures thereof. Additional conditions that can be used to reduce the time for drying of the fabric articles include, but are not limited to, contacting the fabric articles with heated gas and/or circulating gas, and/or repositioning the fabric articles during the evaporative removal step.(par#194)

Concerning the washing additive, Radomyselski teaches the following:

In one embodiment of the present invention the gas is selected from the group consisting of air, nitrogen, ozone, oxygen, argon, helium, neon, xenon, and mixtures thereof, more preferably air, nitrogen, ozone, oxygen, argon, helium, and mixtures thereof, even more preferably still air, ozone, nitrogen, and mixtures thereof.(par#202)

Concerning the claimed fragrance, Radomyselski teaches the following:

(F) optionally, but preferably, an effective amount to provide olfactory effects of perfume;(par#100)

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Concerning the home laundering, Radomyselski teaches the following:

It is preferred that the lipophilic fluids herein be nonflammable or have relatively high flash points and/or low VOC (volatile organic compound) characteristics, these terms having their conventional meanings as used in the dry cleaning industry, to equal or, preferably, exceed the characteristics of known conventional dry cleaning fluids.(par#151)

Concerning the claimed solubility properties, Radomyselski teaches the following:

(D) optionally, an effective amount to soften fibers and/or of hydrophilic plasticizer wrinkle control agent;(par#98).

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Severns (US6670317).

Concerning the preferred working fluid, Severns teaches the following:

a) at least 50% by weight of the composition of a lipophilic fluid selected from the group consisting of fluorinated amines, C6 or higher diols, organosilicones, polyol polyesters, and mixtures thereof;(par#41)

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Concerning the washing additive, Severns teaches the following:

Examples of this type of surfactants are the Silwet.RTM. surfactants which are available CK Witco, OSi Division, Danbury, Conn. Representative Silwet surfactants are as follows.

(par#182)

Concerning the claimed fragrance, Severns teaches the following:

The fabric care compositions of the present invention may also comprise a fragrance delivery system comprising one or more pro-fragrances, pro-perfumes, pro-accords, and mixtures thereof hereinafter known collectively as "pro-fragrances". The pro-fragrances of the present invention can exhibit varying release rates depending upon the pro-fragrance chosen. In addition, the pro-fragrances of the present invention can be admixed with the fragrance raw materials which are released therefrom to present the user with an initial fragrance, scent, accord, or bouquet.(par#150)

Concerning the home laundering, Severns teaches the following:

In parallel, concerns have arisen around the use of "Perc" (short for perchloroethylene) as the wash medium for the commercial dry cleaning process. These concerns have lead to the development of a significant number of proposed alternatives to the Perc-based processes, but to date all other alternatives are still not widely used. Examples include hydrocarbons and liquid carbon dioxide. A more recently proposed option as



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a replacement for Perc in the commercial dry cleaning field involves the use of siloxanes as the cleaning solution for "dry clean only" fabric articles (see, for example, U.S. Pat. Nos.: 5,942,007, Aug. 24, 1999; 6,042,617 and 6,042,618, both Mar. 28, 2000; 6,056,789, May 2, 2000; 6,059,845, May 9, 2000; and 6,063,135, May 16, 2000).(par#61)

Concerning the claimed solubility properties, Severns teaches the following:

The perfume composition of the present invention preferably comprises perfume ingredients that are not typical laundry perfumes that typically avoid hydrophilic ingredients.(par#116).

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Scheper (US6890892).

Concerning the preferred working fluid, Scheper teaches the following:

In general, lipophilic fluids herein are required to be fluids capable of at least

partially dissolving sebum or body soil as defined in the test hereinafter. Mixtures

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of lipophilic fluid are also suitable, and provided that the requirements of the Lipophilic Fluid Test, as described below, are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines

while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic fluid-containing composition.(par#81)

Concerning the washing additive, Scheper teaches the following:

c. a surfactant component selected from the group consisting of siloxane-based surfactants and organosulfosuccinate surfactants; and(par#9)

Concerning the claimed fragrance, Scheper teaches the following:

Perfumes and perfumery ingredients useful in the compositions of the present invention comprise a wide variety of natural and synthetic chemical ingredients, including, but not limited to, aldehydes, ketones, esters, and the like. Also included are various natural extracts and essences which can comprise complex mixtures of ingredients, such as orange oil, lemon oil, rose extract, lavender, musk, patchouli, balsamic essence, sandalwood oil, pine oil, cedar, and the like. Finished perfumes may comprise extremely complex mixtures of such ingredients. Pro-perfumes are also useful in the present invention. Such materials are those precursors or mixtures thereof capable of chemically reacting, e.g., by hydrolysis, to release a perfume, and are described in patents and/or published patent applications to Procter and Gamble, Firmenich, Givaudan and others.(par#127)

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Concerning the home laundering, Scheper teaches the following:

It is preferred that the lipophilic fluids herein be nonflammable or have relatively high flash points and/or low VOC (volatile organic compound) characteristics, these terms having their conventional meanings as used in the dry cleaning industry, to equal or, preferably, exceed the characteristics of known conventional dry cleaning fluids.(par#79)

Concerning the claimed solubility properties, Scheper teaches the following:

Blood proteins are hydrophilic polymers which contain large amount of hydrophilic functional groups such as amide, amine, hydroxyl, mercapto, carboxylic groups.

These are among the toughest soil to clean in a lipophilic fluid cleaning system.(par#76)

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Scheper (US6734153).

Concerning the preferred working fluid, Scheper teaches the following:

In general, lipophilic fluids herein are required to be fluids capable of at least partially dissolving sebum or body soil as defined in the test hereinafter. Mixtures of lipophilic fluid are also suitable, and provided that the requirements of the Lipophilic Fluid Test, as described below, are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic

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fluid-containing composition.(par#39)

Concerning the washing additive, Scheper teaches the following:

Examples of this type of surfactants are the Silwet.RTM. surfactants which are available CK Witco, OSi Division, Danbury, Conn. Representative Silwet surfactants are as follows.

(par#81)

Concerning the claimed fragrance, Scheper teaches the following:

Nonlimiting examples of suitable perfume release and/or delivery agents include improved retention of perfume to surface via use of cationic esterquat (DE 19 919 088); delayed release of perfume via granule incorporation (DE 19 948 667); perfume encapsulates containing crosslinked polystyrene (WO 00/68352); perfume/silica particles (EP 820 762); perfume composition which deposits preferentially on Spandex (WO 99/19452); domestic care product containing perfume particle+silicone polymer for fragrance longevity (WO 01/25389); sustained release acetaldehyde carrier (JP 2001-072637); betaine ester derivatives (EP 1 099 689); perfume compositions containing methyl .beta.-cyclodextrins (WO 00/67719 and WO 00/67720 and WO 00/67721); profragrances containing .beta.-amino ketones and oxazolidines (WO 00/63339); encapsulated blooming perfumes (U.S. Pat. No. 6,143,707); linear and cyclic acetals, ortho carbonate esters (WO 99/00347 and WO 99/00377 and WO 98/47995); p-toluene sulfonate esters for sustained perfume release (WO 97/22580); aminoester derivatives of

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perfumery alcohols (WO 97/16407); enduring perfumes characterized by component ClogP

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3 (WO 97/31094); succinate and fumarate esters of

perfumery alcohols (U.S. Pat. No. 5,668,102); acetals and ketals (WO 97/34981 and WO 97/34986); .beta.-keto esters of perfumery alcohols and applications (WO 98/07405 and WO 98/07813); imines as fragrance delivery vehicle, process of making same (EP 1 067 116 and EP 1 067 117); .beta.-keto esters (EP 911 315); esters, enol esters and carbonates as perfume precursors (WO 98/58899 and EP 887 335 and EP 887 338); organosiloxane from phenylethyl ester of pentenoic acid for delayed perfume release (EP 878 497); softener compositions containing properfume and enzyme for cleaving properfume (EP 1 077 251); perfume capsules for controlled fragrance release (U.S. Pat. No. 6,147,046 and U.S. Pat. No. 6,142,398); ester properfume compound; contains secondary carbamoyl functionality (WO 01/28980); .alpha.-keto ester properfume; triggered by light (U.S. Pat. No. 6,218,355); fragrance releasing siloxane containing PDMS functionalized with fragrance alcohols (EP 982 022); perfume specification to mask enzyme odor (JP 2000-230197); cucurbiturils, alternatives to cyclodextrins (WO 00/68232); perfume encapsulates, containing copolymer of terephthalic acid, sulfoisophthalic acid and ethylene glycol (FR 2 791 906 and FR 2 791 992 and WO 01/23512) and

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mixtures thereof.(par#60)

Concerning the home laundering, Scheper teaches the following:

It is preferred that the lipophilic fluids herein be nonflammable or have relatively high flash points and/or low VOC (volatile organic compound) characteristics, these terms having their conventional meanings as used in the dry cleaning industry, to equal or, preferably, exceed the characteristics of known conventional dry cleaning fluids.(par#37)

Concerning the claimed solubility properties, Scheper teaches the following:

Suitable silicone surfactants include, but are not limited to the polyalkyleneoxide polysiloxanes having a dimethyl polysiloxane hydrophobic moiety and one or more hydrophilic polyalkylene side chains and have the general formula:(par#76)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Deak (US6828295).

Concerning the preferred working fluid, Deak teaches the following:

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In general, lipophilic fluids herein are required to be fluids capable of at least partially dissolving sebum or body soil as defined in the test hereinafter. Mixtures of lipophilic fluid are also suitable, and provided that the requirements of the Lipophilic Fluid Test, as described below, are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic fluid-containing composition. (par#73)

Concerning the washing additive, Deak teaches the following:

In one embodiment, the nonionic surfactants comprise polyhydroxy fatty acid amide surfactants of the formula: (par#141)

Concerning the claimed fragrance, Deak teaches the following:

Perfumes and perfumery ingredients useful in the compositions of the present invention comprise a wide variety of natural and synthetic chemical ingredients, including, but not limited to, aldehydes, ketones, esters, and the like. Also included are various natural extracts and essences which can comprise complex mixtures of ingredients, such as orange oil, lemon oil, rose extract, lavender, musk, patchouli, balsamic essence, sandalwood oil, pine oil, cedar, and the like. Finished perfumes may comprise extremely complex mixtures of such ingredients. Pro-perfumes

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are also useful in the present invention. Such materials are those precursors or mixtures thereof capable of chemically reacting, e.g., by hydrolysis, to release a perfume, and are described in patents and/or published patent applications to Procter and Gamble, Firmenich, Givaudan and others.(par#157)

Concerning the home laundering, Deak teaches the following:

For the cleaning of fabric articles consumers currently have the choice of conventional laundry cleaning or dry cleaning.(par#16)

Concerning the claimed solubility properties, Deak teaches the following:

The nonionic surfactants herein are characterized by an HLB (hydrophilic-lipophilic balance) of from 5 to 20, preferably from 6 to 15.(par#129)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Severns (US6898951).

Concerning the preferred working fluid, Severns teaches the following:

The lipophilic fluid herein is one having a liquid phase present under operating



conditions of the appliance. In general such a fluid can be fully liquid at ambient temperature and pressure, can be an easily melted solid, e.g., one which becomes liquid at temperatures in the range from about 0 deg. C to about 60 deg. C, or can comprise a mixture of liquid and vapor phases at ambient temperatures and pressures, e.g., at 25 deg. C and 1 atm. pressure. Thus, the essential lipophilic fluid is not a compressible gas such as carbon dioxide. It is preferred that the lipophilic fluid herein be inflammable or, have relatively high flash points and/or low VOC characteristics, these terms having their conventional meanings as used in the dry cleaning industry, to equal or, preferably, exceed the characteristics of known conventional dry cleaning fluids. Moreover, suitable lipophilic cleaning fluids herein are readily flowable and nonviscous. In general, lipophilic cleaning fluid herein are required to be fluids capable of at least partially dissolving sebum or body soil as defined in the test hereinafter. Mixtures of lipophilic fluid are also suitable, and provided that the requirements of the test are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic cleaning fluid; Other suitable lipophilic fluids include diol solvent systems e.g., higher diols such as C6- or C8- or higher diols; organosilicon solvents including both cyclic and acyclic types, and the like; and mixtures thereof. A preferred group of nonaqueous liquids suitable for incorporation as the major component of the

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lipophilic cleaning fluid includes low-volatility nonfluorinated organics, silicones, especially those other than aminofunctional silicones, and mixtures thereof. Low volatility nonfluorinated organics include for example OLEAN and other polyol esters, or certain relatively nonvolatile biodegradable mid-chain branched petroleum fractions. Suitable silicones for use as a major component, e.g., more than 50%, of the lipophilic cleaning fluid include cyclopentasiloxane, sometimes termed "D5", or linear analogs having approximately similar volatility, optionally complemented by other compatible silicones. Suitable silicones are well known in the literature, see, for example, Kirk Othmer's Encyclopedia of Chemical Technology, and are available from a number of commercial sources, including General Electric, Toshiba Silicone, Bayer, and Dow Corning. Other suitable fluids are commercially available from Procter & Gamble or from Dow Chemical and other suppliers. For example one suitable silicone is SF-1528 available from GE silicone fluids. It is worth noting that SF-1528 fluid is 90% cyclopentasiloxane (D5).(par#243)

Concerning the washing additive, Severns teaches the following:

Examples of this type of surfactants are the Silwet  
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xae; surfactants which

are available CK Witco, OSi Division, Danbury, Conn. Representative Silwet surfactants are as follows.(par#269)

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Concerning the claimed fragrance, Severns teaches the following:

Perfumes and perfumery ingredients useful in the present compositions and processes comprise a wide variety of natural and synthetic chemical ingredients, including, but not limited to, aldehydes, ketones, esters, and the like. Also included are various natural extracts and essences which can comprise complex mixtures of ingredients, such as orange oil, lemon oil, rose extract, lavender, musk, patchouli, balsamic essence, sandalwood oil, pine oil, cedar, and the like. Finished perfumes may comprise extremely complex mixtures of such ingredients. In the processes of the present invention, because significantly lower wash volumes are used, more concentrated perfumes in lesser amounts may be used. This is because most, if not all, of the perfume will be applied to the fabric articles and not either washed away never having contacting the fabric or destroyed by the other components of the detergent composition in the wash liquor. Pro-perfumes are also useful in the present invention. Such materials are those precursors or mixtures thereof capable of chemically reacting, e.g., by hydrolysis, to release a perfume, and are described in patents and/or published patent applications to Procter and Gamble, Firmenich, Givaudan and others.(par#276)

Concerning the home laundering, Severns teaches the following:

For the cleaning of fabric articles consumers have the choice of conventional aqueous immersive wash laundry cleaning or dry cleaning.(par#41)

Concerning the claimed solubility properties, Severns teaches the following:

Suitable silicone surfactants include, but are not limited to the polyalkyleneoxide

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polysiloxanes having a dimethyl polysiloxane hydrophobic moiety and one or more hydrophilic polyalkylene side chains and have the general formula:

(par#266)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Login (US5093031).

Concerning the fluorine-containing compound and the home laundering, Login teaches the following:

Still another field in which the present lactams find application is in dry cleaning. Dry cleaning solvents generally fall into two categories, namely the petroleum solvents and the halogenated solvents which include Stoddard solvent (a petroleum distillate between gasoline and kerosene), carbon tetrachloride, trichloroethylene, perchloroethylene, fluorinated hydrocarbons, 104F solvent, etc. Although these solvents are satisfactory for the removal of fatty type soils, many water soluble spots and stains,

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e.g., tea, fruit, wine, ink and beer stains, are not removed. However, when the present solvent soluble lactams are added to the formulation, such water insoluble stains are easily removed. These lactams, particularly the pyrrolidones herein defined, complex with acidic molecules, labile protons, polarizable molecules and color forming components. Thus, they can solubilize water in the dry cleaning formulation thus assisting in removing water soluble stains. They also complex with odor causing components in human perspiration, this minimizing or eliminating odor retained in clothing including polyester fabrics. The present lactams are also efficacious in removing soil and stains when added to a standard laundry detergent. The effective amount of lactam incorporated in dry cleaning or laundry detergents for the above purposes is generally at least 1% by weight, preferably between about 2% and 50% by weight of the total formulation. As a specific spot and stain remover, however, the present lactams, particularly the pyrrolidones, can be used individually or in admixture in 100% concentration with no additive. For effective stain removal, usually an amount which wets the entire stain will suffice to give desired results.(par#56)

Concerning the washing additive, Login teaches the following:

Drugs are usually administered as a complex formulation. In particular, drug compositions often contain surfactants which can influence the de-aggregation and dissolution of an active ingredient. They can also

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control the rate of precipitation of a drug which is administered in solution form by increasing the membrane permeability and membrane integrity. Surfactants may also influence the binding of the drug to a receptor site. Water soluble drugs will not bind, whereas water insoluble drugs will interact with surfactant molecules. Thus, high concentrations of surfactants are likely to affect the lipophilic and hydrophobic drugs in differing degrees.(par#37)

Concerning the claimed fragrance, Login teaches the following:

Retention of the perfume odor on the skin is remarkably extended.(par#144)

Concerning the claimed solubility properties, Login teaches the following:

N-lower alkyl pyrrolidones have found wide commercial acceptance as non-toxic, aprotic chemical solvents. However, absence of hydrophobic-lipophobic balance in these molecules, as in the case of N-methyl pyrrolidone, prevents micellular formation; consequently, they possess no significant aqueous surfactant properties. Linear amine oxides are known to possess high surfactant activity; however these compounds are not stable at high temperatures and cannot be employed in metal working or high temperature fiber processing.(par#12)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and

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a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Severns (US6691536).

Concerning the preferred working fluid, Severns teaches the following:

The lipophilic fluid herein is one having a liquid phase present under operating conditions of the appliance. In general such a fluid can be fully liquid at ambient temperature and pressure, can be an easily melted solid, e.g., one which becomes liquid at temperatures in the range from about 0 deg. C. to about 60 deg. C., or can comprise a mixture of liquid and vapor phases at ambient temperatures and pressures, e.g., at 25 deg C. and 1 atm. pressure. Thus, the essential lipophilic fluid is not a compressible gas such as carbon dioxide. It is preferred that the lipophilic fluid herein be inflammable or, have relatively high flash points and/or low VOC characteristics, these terms having their conventional meanings as used in the dry cleaning industry, to equal or, preferably, exceed the characteristics of known conventional dry cleaning fluids. Moreover, suitable lipophilic cleaning fluids herein are readily flowable and nonviscous. In general, lipophilic cleaning fluid herein are required to be fluids capable of at least partially dissolving sebum or

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body soil as defined in the test hereinafter. Mixtures of lipophilic fluid are also suitable, and provided that the requirements of the test are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic cleaning fluid; Other suitable lipophilic fluids include diol solvent systems e.g., higher diols such as C6- or C8- or higher diols; organosilicon solvents including both cyclic and acyclic types, and the like; and mixtures thereof. A preferred group of nonaqueous liquids suitable for incorporation as the major component of the lipophilic cleaning fluid includes low-volatility nonfluorinated organics, silicones, especially those other than aminofunctional silicones, and mixtures thereof. Low volatility nonfluorinated organics include for example OLEAN and other polyol esters, or certain relatively nonvolatile biodegradable mid-chain branched petroleum fractions. Suitable silicones for use as a major component, e.g., more than 50%, of the lipophilic cleaning fluid include cyclopentasiloxane, sometimes termed "D5", or linear analogs having approximately similar volatility, optionally complemented by other compatible silicones. Suitable silicones are well known in the literature, see, for example, Kirk Othmer's Encyclopedia of Chemical Technology, and are available from a number of



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commercial sources, including General Electric, Toshiba Silicone, Bayer, and Dow Corning. Other suitable fluids are commercially available from Procter

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Gamble or from Dow Chemical and other suppliers. For example one suitable silicone is SF-1528 available from GE silicone fluids. It is worth noting that SF-1528 fluid is 90% cyclopentasiloxane (D5).(par#248)

Concerning the washing additive, Severns teaches the following:

Examples of this type of surfactants are the Silwet.RTM. surfactants which are available C K Witco, OSi Division, Danbury, Conn. Representative Silwet surfactants are as follows.

(par#272)

Concerning the claimed fragrance, Severns teaches the following:

Perfumes and perfumery ingredients useful in the present compositions and processes comprise a wide variety of natural and synthetic chemical ingredients, including, but not limited to, aldehydes, ketones, esters, and the like. Also included are various natural extracts and essences which can comprise complex mixtures of ingredients, such as orange oil, lemon oil, rose extract, lavender, musk, patchouli, balsamic essence, sandalwood oil, pine oil, cedar, and the like. Finished perfumes may comprise extremely complex mixtures of such ingredients. In the processes of the present invention, because significantly lower wash volumes are

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used, more concentrated perfumes in lesser amounts may be used. This is because most, if not all, of the perfume will be applied to the fabric articles and not either washed away never having contacting the fabric or destroyed by the other components of the detergent composition in the wash liquor. Pro-perfumes are also useful in the present invention. Such materials are those precursors or mixtures thereof capable of chemically reacting, e.g., by hydrolysis, to release a perfume, and are described in patents and/or published patent applications to Procter and Gamble, Firmenich, Givaudan and others.(par#280)

Concerning the home laundering, Severns teaches the following:

For the cleaning of fabric articles consumers have the choice of conventional aqueous immersive wash laundry cleaning or dry cleaning.(par#48)

Concerning the claimed solubility properties, Severns teaches the following:

Suitable silicone surfactants include, but are not limited to the polyalkyleneoxide polysiloxanes having a dimethyl polysiloxane hydrophobic moiety and one or more hydrophilic polyalkylene side chains and have the general formula:(par#267)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and

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a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by de Jager (US5269958).

Concerning the fluorine-containing compound, de Jager teaches the following:

U.S. Pat. No. 4,322,037 to Heeb et al. teaches an aerosol container to spray compositions that are free of chlorofluorinated hydrocarbon or hydrocarbon gases. The container can be used to deliver liquids pressurized by dimethyl ether as a propellant. Dimethoxymethane is suggested as a possible solvent for the propellant or the active ingredients to be delivered. The compositions preferably contain 12.9-18% water. Use of chlorofluorinated solvents is preferred in one embodiment although chlorofluorinated propellant gases are to be avoided. Another preferred carrier composition is composed of 54.0-55.0% water, 0.9-1.1% carbon dioxide, 38.5-35.1% dimethyl ether and 9.0-6.4% alcohols having 2 or 3 carbon atoms. The compositions delivered from such containers can be hairsprays, room sprays and cosmetic or medicinal sprays such as deodorants. (par#35)

Concerning the washing additive, de Jager teaches the following:

U.S. Pat. No. 4,013,595 to Podella et al. teaches non-flammable aqueous aerosol rug cleaners using flammable hydrocarbon propellants such as

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isobutane, n-butane and propane. They possess reduced flammability due to the presence of at least 0.3% lauryl alcohol in combination with 0.3-10% of an alkali metal lauryl sulfate salt as at least one of the surfactants.

These compositions would not be suitable for spot dry cleaning of fabrics since they contain 50-90% water.(par#29)

Concerning the claimed fragrance, de Jager teaches the following:

Example 8 was reported to be significantly better than Comparative Example A in terms of the length of the drying time and satisfaction with length of drying time. Example 8 was reported to be significantly worse than Comparative Example A in terms of the smell of the product. This was not unexpected since Example 8 did not contain any fragrance while Comparative Example A contained a fragrance to mask the solvent odors. No statistically significant difference was noted between Example 8 and Comparative Example A in terms of force of spray, stain removal ability and overall product performance. Overall, Example 8 was found to be the best of the two compositions tested.(par#100)

Concerning the home laundering, de Jager teaches the following:

Self-pressurized aerosol spot dry cleaning compositions(par#1)

Concerning the claimed solubility properties, de Jager teaches the following:

The self-pressurized aerosol compositions of the present invention principally rely on the solvent power of dimethoxymethane to dissolve oil-based stains. Since it is polar, it can also help to dissolve stains

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which have a hydrophilic character and can be removed with water.

Dimethoxymethane is a well known compound having the chemical formula

CH<sub>3</sub>OCH<sub>2</sub>OCH<sub>3</sub>. It is also known as methylal or formal and

is commercially available from Lambiotte

&

Cie S.A. of Brussels, Belgium,

among other commercial sources. Dimethoxymethane comprises from 20% to

about 70%, preferably from about 30% to 50%, and most preferably, from

about 35% to 40%, by weight of the total composition.(par#53)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilde (US6860998).

Concerning the fluorine-containing compound, Wilde teaches the following:

In a variation of the process described in our unpublished application GB 9905054.4, the solvent may be a mixture of HFC 134a and a co-solvent in which the fixed or mineral oil to be extracted is relatively soluble. The

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dissolving properties of HFC 134a are significantly increased by the addition of a suitable co-solvent. Suitable cosolvents which can be added to HFC 134a may be liquids at room temperature or liquefied gases and include hydrocarbons such as the alkanes, benzene and its esters, low boiling aliphatic esters such as acetates and butyrates, ketones such as acetone, methyl isobutyl ketone, methyl ethyl ketone, chlorinated, fluorinated and chlorofluorinated hydrocarbons such as dichloromethane and dichloro difluoromethane, ethers and such as dimethyl ether and diethyl ether, dimethyl formamide, tetrahydrofuran, dimethyl sulphoxide, alcohols such as methyl alcohol, ethyl alcohol, n-propanol, iso-propanol, acids such as acetic acid, formic acid and even acetic anhydride, nitriles such as acetonitrile (methyl cyanide), anhydrous liquefied ammonia and other liquefied gases such as sulphur dioxide, nitric oxide, nitrogen dioxide, nitrous oxide, liquefied hydrogen sulphide, carbon disulphide, nitromethane, and nitrobenzene could all be used in this process. (par#56)

Concerning the washing additive, Wilde teaches the following:

However, many of the traditional chlorinated solvents present their own problems. Most of these materials are either harmful or toxic or may be damaging to the environment. Their vapours are believed to deplete the protective ozone in the stratosphere. Many of these chlorinated solvents are also greenhouse gases and may lead to global warming. (par#66)

Concerning the claimed fragrance, Wilde teaches the following:

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On this occasion, 440 grams of HFC 134a were introduced into the bottle.

The contents of the bottle remained as a single phase, slightly opalescent solution.(par#187)

Concerning the home laundering, Wilde teaches the following:

The use of less flammable solvents such as chlorinated hydrocarbon solvents has gone some way to reducing these risks. For example, the use of methylene chloride (dichloromethane) to extract valuable components such as caffeine from coffee and tea has become common. Similarly, perchloroethylene has a long history of use in the dry cleaning industry to de-grease oily clothing.(par#65)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Login (US5294644).

Concerning the fluorine-containing compound and the home laundering, Login teaches the following:

Still another field in which the present lactams find application is in dry

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cleaning. Dry cleaning solvents generally fall into two categories, namely the petroleum solvents and the halogenated solvents which include Stoddard solvent (a petroleum distillate between gasoline and kerosene), carbon tetrachloride, trichloroethylene, perchloroethylene, fluorinated hydrocarbons, 104F solvent, etc. Although these solvents are satisfactory for the removal of fatty type soils, many water soluble spots and stains, e.g., tea, fruit, wine, ink and beer stains, are not removed. However, when the present solvent soluble lactams are added to the formulation, such water insoluble stains are easily removed. These lactams, particularly the pyrrolidones herein defined, complex with acidic molecules, labile protons, polarizable molecules and color forming components. Thus, they can solubilize water in the dry cleaning formulation thus assisting in removing water soluble stains. They also complex with odor causing components in human perspiration, this minimizing or eliminating odor retained in clothing including polyester fabrics. The present lactams are also efficacious in removing soil and stains when added to a standard laundry detergent. The effective amount of lactam incorporated in dry cleaning or laundry detergents for the above purposes is generally at least 1% by weight, preferably between about 2% and 50% by weight of the total formulation. As a specific spot and stain remover, however, the present lactams, particularly the pyrrolidones, can be used individually or in admixture in 100% concentration with no



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additive. For effective stain removal, usually an amount which wets the entire stain will suffice to give desired results.(par#62)

Concerning the washing additive, Login teaches the following:

Drugs are usually administered as a complex formulation. In particular, drug compositions often contain surfactants which can influence the de-aggregation and dissolution of an active ingredient. They can also control the rate of precipitation of a drug which is administered in solution form by increasing the membrane permeability and membrane integrity. Surfactants may also influence the binding of the drug to a receptor site. Water soluble drugs will not bind, whereas water insoluble drugs will interact with surfactant molecules. Thus, high concentrations of surfactants are likely to affect the lipophilic and hydrophobic drugs in differing degrees.(par#39)

Concerning the claimed fragrance, Login teaches the following:

Retention of the perfume odor on the skin is remarkably extended.(par#150)

Concerning the claimed solubility properties, Login teaches the following:

N-lower alkyl pyrrolidones have found wide commercial acceptance as non-toxic, aprotic chemical solvents. However, absence of hydrophobic-lipophobic balance in these molecules, as in the case of N-methyl pyrrolidone, prevents micellular formation; consequently, they possess no significant aqueous surfactant properties. Linear amine oxides are known to possess high surfactant activity; however these compounds are

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not stable at high temperatures and cannot be employed in metal working or

high temperature fiber processing.(par#14)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Burd (US6060108).

Concerning the preferred working fluid, Burd teaches the following:

2. The method of claim 1 wherein said perfluorocarbon is selected from the group consisting of perfluoroalkane, perfluoroamine, and perfluoromorpholine.(par#7)

Concerning the fluorine-containing compound, Burd teaches the following:

18. The method of claim 12 wherein said perfluorocarbon and hydrofluorocarbon are mixed by weight in a range of about 5% perfluorocarbon to about 95% hydrofluorocarbon.(par#23)

Concerning the washing additive, Burd teaches the following:

The reagent of the present invention reveals the watermark and evaporates from the cellulose material at rates similar to other watermark reagents

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known in the art such as, for example, benzene, hexane, or solvent naptha.

When compared to these reagents, however, the reagent of the present invention is virtually non-toxic, generates less fumes and odors, is nonflammable, reduces environmental concerns with respect to ozone depletion and global warming, and has a very low degree of solvency. With respect to this latter advantage, the low solvency of the reagent of the present invention reduces or eliminates the damage to the document.

Moreover, when the watermark appears, it is relatively more pronounced with less translucence effects. This is important with hard to see watermarks, particularly where interference, such as cancellation marks, can cause viewing difficulties. When the reagent of the present invention dries, the watermark is no longer visible. Accordingly, the present invention is particularly useful in revealing watermarks on collectibles such as stamps, security documents, and the like, where damage to the document must be held to a minimum.(par#56)

Concerning the home laundering, Burd teaches the following:

7. The method of claim 1 wherein said cellulose-based material is one of paper, textile, and fabric.(par#12)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and

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a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(e) as being anticipated by Deak (US6894014).

Concerning the preferred working fluid, Deak teaches the following:

In general, lipophilic fluids herein are required to be fluids capable of at least partially dissolving sebum or body soil as defined in the test hereinafter. Mixtures of lipophilic fluid are also suitable, and provided that the requirements of the Lipophilic Fluid Test, as described below, are met, the lipophilic fluid can include any fraction of dry-cleaning solvents, especially newer types including fluorinated solvents, or perfluorinated amines. Some perfluorinated amines such as perfluorotributylamines while unsuitable for use as lipophilic fluid may be present as one of many possible adjuncts present in the lipophilic fluid-containing composition.(par#159)

Concerning the washing additive, Deak teaches the following:

24. The detergent composition according to claim 23 wherein said surfactant component further comprises a surfactant selected from the group consisting of anionic surfactants, cationic surfactants, betaine or zwitterionic surfactants and mixtures thereof.(par#51)

Concerning the claimed fragrance, Deak teaches the following:

Perfumes and perfumery ingredients useful in the compositions of the present

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invention comprise a wide variety of natural and synthetic chemical ingredients, including, but not limited to, aldehydes, ketones, esters, and the like. Also included are various natural extracts and essences which can comprise complex mixtures of ingredients, such as orange oil, lemon oil, rose extract, lavender, musk, patchouli, balsamic essence, sandalwood oil, pine oil, cedar, and the like. Finished perfumes may comprise extremely complex mixtures of such ingredients. Pro-perfumes are also useful in the present invention. Such materials are those precursors or mixtures thereof capable of chemically reacting, e.g., by hydrolysis, to release a perfume, and are described in patents and/or published patent applications to Procter and Gamble, Firmenich, Givaudan and others.(par#303)

Concerning the home laundering, Deak teaches the following:

For the cleaning of fabric articles consumers currently have the choice of conventional laundry cleaning or dry cleaning.(par#118)

Concerning the claimed solubility properties, Deak teaches the following:

The nonionic surfactants herein are characterized by an HLB (hydrophilic-lipophilic balance) of from 5 to 20, preferably from 6 to 15.(par#273)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

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Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura (US5505985).

Concerning the preferred working fluid, Nakamura teaches the following:

A fluorine-containing polymer compound is dissolved in a fluorine-containing solvent such as perfluoroalcohol, perfluoroether, perfluoroamine, or the like and the so-prepared solution was cast on a laminated structure and air-dried for 8 to 16 hours to give a film (protection layer). It does not matter how long the drying is carried out, if it is carried out for at least 8 hours. Since, however, there is no much difference even if the drying time exceeds 16 hours, such a longer drying time is improper. The drying time is generally properly about 12 hours.(par#74)

Concerning the fluorine-containing compound, Nakamura teaches the following:

The above perfluoroether and the above copolymerizable monomer can be radical-copolymerized by a conventional method such as bulk polymerization in which these are directly polymerized, solution polymerization in which these are dissolved in an organic solvent such as fluorinated hydrocarbon, chlorinated hydrocarbon, fluorochlorinated hydrocarbon, alcohol, hydrocarbon, etc., and polymerized in the solvent, suspension polymerization in which these are polymerized in an aqueous medium in the presence or absence of a proper organic solvent, emulsion polymerization

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in which these are polymerized in an aqueous medium containing an emulsifier, or other method. Although the proportion of the perfluoroether for the production of the copolymer is not specially limited, this proportion is preferably 0.1 to 99 mol % as a material to be charged based on the above copolymerizable monomer.(par#68)

Concerning the washing additive, Nakamura teaches the following:

Specific examples of inorganic radical initiator include inorganic peroxides such as (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub>, K<sub>2</sub>S<sub>2</sub>O<sub>8</sub>, etc. As light, visible light, ultraviolet light, etc., can be used, and a photosensitizer may be used in combination. The ionizing radiation includes  $\gamma$  ray,  $\beta$  ray,  $\alpha$  ray, etc., from radioactive isotopes such as <sup>60</sup>Co, <sup>192</sup>Ir, <sup>170</sup>Tm, <sup>137</sup>Cs, etc., and electron beam from an electron beam accelerator.(par#71)

Concerning the claimed fragrance, Nakamura teaches the following:

1. A process for producing an organic electroluminescent device, comprising(par#8)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

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Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura (US5427858).

Concerning the preferred working fluid, Nakamura teaches the following:

A fluorine-containing polymer compound is dissolved in a fluorine-containing solvent such as perfluoroalcohol, perfluoroether, perfluoroamine, or the like and the so-prepared solution was cast on a laminated structure and air-dried for 8 to 16 hours to give a film (protection layer). It does not matter how long the drying is carried out, if it is carried out for at least 8 hours. Since, however, there is no much difference even if the drying time exceeds 16 hours, such a longer drying time is improper. The drying time is generally properly about 12 hours.(par#93)

Concerning the fluorine-containing compound, Nakamura teaches the following:

The above perfluoroether and the above copolymerizable monomer can be radical-copolymerized by a conventional method such as bulk polymerization in which these are directly polymerized, solution polymerization in which these are dissolved in an organic solvent such as fluorinated hydrocarbon, chlorinated hydrocarbon, fluorochlorinated hydrocarbon, alcohol, hydrocarbon, etc., and polymerized in the solvent, suspension polymerization in which these are polymerized in an aqueous medium in the presence or absence of a proper organic solvent, emulsion polymerization in which these are polymerized in an aqueous medium containing an



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emulsifier, or other method. Although the proportion of the perfluoroether for the production of the copolymer is not specially limited, this proportion is preferably 0.1 to 99 mol. % as a material to be charged based on the above copolymerizable monomer.(par#87)

Concerning the washing additive, Nakamura teaches the following:

Specific examples of inorganic radical initiator include inorganic peroxides such as  $(\text{NH}_4)_2\text{S}_2\text{O}_8$ ,  $\text{K}_2\text{S}_2\text{O}_8$ , etc. As light, visible light, ultraviolet light, etc., can be used, and a photosensitizer may be used in combination. The ionizing radiation includes  $\gamma$  ray,  $\beta$  ray,  $\alpha$  ray, etc., from radioactive isotopes such as  $^{60}\text{Co}$ ,  $^{192}\text{Ir}$ ,  $^{170}\text{Tm}$ ,  $^{137}\text{Cs}$ , etc., and electron beam from an electron beam accelerator.(par#90)

Concerning the claimed fragrance, Nakamura teaches the following:

(a) a laminated structure including a light-emitting layer formed of a luminescent organic solid which is disposed between mutually opposing positive and negative electrodes, the luminescent organic solid being injectable with electrons from the negative electrode and holes from the positive electrode when direct current is charged between the positive electrode and the negative electrode and thereby having an excited state therein to recombine the electrons and the holes injected into the luminescent organic solid for light emission, and(par#6)

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Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

Claims 79-81, 83-88 are rejected under 35 U.S.C. 102(b) as being anticipated by Balliett (US5676005).

Concerning the preferred working fluid and the fluorine-containing compound, Balliett teaches the following:

7. Process in accordance with claim 1 wherein the perfluorocarbon fluid is selected from the group consisting of perfluoroamines.(par#15)

Concerning the washing additive, Balliett teaches the following:

It is another object of the invention to use in a conventional wire-drawing process a lubricant having zero ozone depletion potential (ODP).(par#29)

Concerning the applicant's claimed functional properties, as the examiner has in the above rejection recited compounds meeting the broad class of compounds recited on page 5 of the instant specification (i.e. perfluorocarbons, hydrofluoroethers, fluorinated hydrocarbons, and fluoroinerts) such functional properties as non-reactive, non-aqueous, non-oleophilic, apolar, and a KB value less than 30 would be inherent to those compounds pending a showing to the contrary.

### *Conclusion*

Should the applicant determine that any of the compounds recited above do not meet the functional limitations of the working fluid, the examiner will remove these rejections if and only if they are accompanied by a signed declaration demonstrating beyond a shadow of a doubt that these fluid do not meet these functional limitations. The examiner does not have the necessary equipment for measuring reactivity, solubility, charge, or KB values. The applicant does have this equipment available and thus the burden is on the applicant to demonstrate which of the numerous claimed function properties are not met.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325. The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory E. Webb

Application/Control Number: 10/027,160

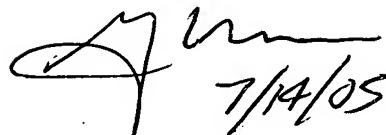
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Primary Examiner

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Handwritten signature and date 7/14/05.